Supplementary Table 1. *Arabidopsis* and rice protein sequences used for motif discovery with the MEME Suite.

Arabidopsis genes	Rice orthologs/sequelogs	Function	Protein sequences
At5g45350	No match	unknown function	MGGDNDNDKDKGFHGYPPAGYPPPGAYPPAGYPQQGYPPPPGAYPPAGYPPGAYPPAPGGYPPAPGYGGYPPAPGYGGYPPAPGHGGYPPAGYPAHHSGHA GGIGGMIAGAAAAYGAHHVAHSSHGPYGHAAYGHGFGHGHGYGYGHGHGKFKHGKHGKFKHGKHGMFGGGKFKKWK
At1g47400	No match	unknown function	MMSFVANLAIKRFDHASTVYVEDVVDSSRVAYSENGGDDDDSGYDYAPAA
At2g30760	No match	unknown function	MQMIKPPVQRHSHRRHRLLRSLGHQFSFGFFALCEKQRECKCDMATVMTTNLYNVARHSPHPIIFVCGSWSSLIESLIESAKEEEESMRRRS
At2g30766	No match	unknown function	MAVVSHNNAEGRLYESTQTWPIAYLQIGGQENGGDDDDDDCDVAPAA
At2g14247	No match	unknown function	MAPSAAMLILSHPLVSHKAKNQSLSSPSSVKSTRVFGFLWPWKALDNEDHSAVVLGRLFGDPATIEKRFQEALEQSCW
At1g13609	No match	unknown function	MNNLRVIMSVLLAVLVFTATVSESAEEMGKGEVTISLRCKTKTECLKNIACEACVDCRCDKGICKCHGFTAETNNPTV

Rice locus	Arabidopsis ortholog/sequelogs	Function/description	Protein sequences
LOC_Os01g45914	#N/A	OsIMA1	MAPVSEASPLVHQDGGIIASFAVYAGAPCCSARGRMAETDGDDDDDDYDCAPAA
LOC_Os03g51530	#N/A	Unknown function	MAPTASMLFLSYHQLHRPASAAEAAPASRRKEAEEEGSNGGAAGGRVRVSLSSALSLLARRREAAPTPTPQAAAAKEVTRRGGGGGDGVAGEGEPEEAASLERR FEEAVRLSCWSS
LOC_Os11g15624	#N/A	Unknown function	METPSPPAHPCPQTSPNCRQGHWPNPPSPALFSATTAGHQLRRSSITLKIPPDSQELKWTKKAMLKLPKATFHEAISFSLRRHRKGKNSMVLTSSCYKSICSQALPVV FLSYFVFGSFVCRECVWPVGP
LOC_Os12g18410	#N/A	Unknown function	MPVTQHLGSEGDGAQVQYEATLAYSGAVAGVTIEELAGRTSSWSSVSYVLDLGFVHPHHAAHACLLWERRAPCLPCPLQNIIATAARPHLPPHTRGLYISLTASLTTSI CISCMSGCVPCCHSTKEVSATAFEDLNEAHSRRPEQGKVGELGHVPGSEDQGREA
LOC_Os07g04920 - Os.12430.1.S1_at	#N/A	OsIMA2	MAIAKSECERLAWALLLESNLLVGNRRSNGDDDDDDVDVAPAA
Os.27982.1.S1_at	#N/A	Unknown function	MQKDAPSPLPPPVRYCGVLEDYEQQVDEEPPSPKSPSRKLSAAYRAELRRQNALINNGPRYRFRRPGEKRRRKKKKKHNKSKHHHTPPPPSPTPRPSPPSPICPYE EYPTFEPDDPVWMRQSTMYAEAVLEHYNAAVDVGGGGVKYELVRAIFSGAIFTCKAAYGHRLFFAEVRKDKKRYIPTCLWSLDDEADRVGGAGADPQVDLPEITSPS RRNYWFSCDDEMKHPKDGTSYHAGHFL
Os.51491.1.S1_at	#N/A	Unknown function	MDISRTNEGYTSCGPVVEMSWHRAGVLLLGAQPWLPVSGILAVARVGFVLLSMARMGWELCHVFCPYAVVRSVNAIKKIQPPKNKTALQEMIGKINFVRRFISNLSGR LEPFTPLLRLKADQKFTWGAEQQKALDSIKEYLSSPPVLIPPQKLRHYLLSNECTVICKADVVKYMLSAPISKGRVGKWIFSLTEFDLRYESPKAIKGQAIADFIVDHRDN SIGSVEIVPWTLFFDGSVCTHGCGIGLVIISARGASFEFAYTIKPYTTNNQAEYEAVLKGLQLLKEVEADVVEIMDDSLLVISQLAGEYECKNDTLMVYNEKCRELLRGF QLVISKHVSREQNVEANDLAQGASRYKPMIKDVRVEVATLSANDWRYDVHHYLQNPSQSASRKLRYKALRHTLLDDELYYRTIDGFLLKCLSADQTKVAIGDGT
Os.5436.1.S1_at	#N/A	Unknown function	MPGSLPGGPVPHDKRSQDFDSDNVLGLGLCEYILDYFLVVKRSSIDLVDRERIDYPMFYPGRALKIKDRFALFMMSLFLVSKYTDEVLMPRVIEATRSISYFAKLQRGD WSPHGTARKLKVIRGPSFSEGIRSLSFLMEVSAWCRVCNCETC*